

REMARKS

This is intended as a full and complete response to the Office Action dated January 7, 2009, having a shortened statutory period for response set to expire on April 7, 2009. Please reconsider the claims pending in the application for reasons discussed herein.

Claims 1, 4-9, 33, 34, 36, 37, and 44-57 are rejected and claims 38-43 are objected to by the Examiner but would be allowable if redrafted in independent form. Claims 58-63 are allowed.

Claims 1, 4-9, 33, 34, 36-43, and 51-63 remain pending in the application after entry of this response. Claims 1, 38-43, and 51 have been amended. No new matter has been added by the amendments. Claims 44-50 have been canceled without prejudice.

Claim Rejections Under 35 USC § 103

Claims 1, 4-9, 33, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Buchanan* (US 2002/0066568) in view of *Eno* (US 5,923,111) and *Kawabata* (US 6,025,691). *Buchanan*, *Eno*, and *Kawabata*, either alone or in combination, do not teach, suggest, or disclose each of the at least three phases being continuously driven by a cyclically smoothly varying non-sinusoidal voltage applied to the corresponding motor phase during driving of the motor, as recited in amended claim 1. *Buchanan* and *Eno* do not discuss the waveforms associated with the motor. *Kawabata* modifies a sinusoidal base waveform into a waveform with jagged peaks (Fig. 11) in order to obtain constant torque (Fig. 13). Therefore, claim 1 and its dependents are patentable over *Buchanan*, *Eno*, and *Kawabata*.

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Buchanan* in view of *Eno* and *Kawabata* and further in view of *Iijima* (US 6,462,491). *Buchanan*, *Eno*, *Kawabata*, and *Iijima*, either alone or in combination, do not teach, suggest, or disclose each of the at least three phases being continuously driven by a cyclically smoothly varying non-sinusoidal voltage applied to the corresponding motor

phase during driving of the motor, as recited in amended claim 1. *Iijima* discloses sinusoidal waveforms (Figures 8 and 28). Therefore, claim 1 and its dependents are patentable over *Buchanan*, *Eno*, *Kawabata*, and *Iijima*.

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Buchanan* in view of *Eno* and *Kawabata*, and further in view of *Endo* (US 4,879,502). *Buchanan*, *Eno*, *Kawabata*, and *Endo*, either alone or in combination, do not teach, suggest, or disclose each of the at least three phases being continuously driven by a cyclically smoothly varying non-sinusoidal voltage applied to the corresponding motor phase during driving of the motor, as recited in amended claim 1. *Endo* does not discuss the waveforms associated with the motor. Therefore, claim 1 and its dependents are patentable over *Buchanan*, *Eno*, *Kawabata*, and *Endo*.

Claims 44-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Buchanan* in view of *Eno* and *Iijima*. Claims 44-50 have been canceled. Withdrawal of the rejection is respectfully requested.

Claims 51-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Buchanan* in view of *Eno* and *Endo*. *Buchanan*, *Eno*, and *Endo*, either alone or in combination, do not teach, suggest, or disclose the motor being driven from a power supply through a variable voltage chopper and an inverter, as recited in amended claim 51. The Examiner recognizes that neither *Buchanan* nor *Eno* discloses a voltage chopper. *Endo* discloses either a chopper or an inverter but not both. Therefore, claim 51 and its dependents are patentable over *Buchanan*, *Eno*, and *Endo*.

Claim Objection

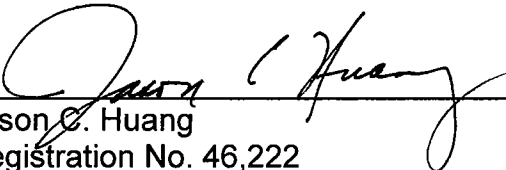
Claims 38-43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 38-43 have been redrafted in independent form with some modifications. Instead of three phases being continuously driven, claims 38-43 specify that only at least two of the phases need to be continuously driven and instead of an AC synchronous permanent magnet motor, claims 38-43

specify that the motor need only be a permanent magnet motor. Applicant does not believe the modifications affect the allowability of the claims.

Conclusion

Having addressed all issues set out in the office action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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